

**ISTEP+: Grade 8 Mathematics
Blueprint**

Standard Assessed	Description	Percent Range *
1 – Number Sense	Questions may include solving problems involving scientific notation; identifying rational and irrational numbers; applying laws of exponents; using the inverse relationship between squaring and finding square roots of numbers; and calculating square roots and approximations of square roots.	8-18%
2 – Computation	Questions may include solving addition, subtraction, multiplication, and division problems with rational numbers and solving problems involving simple interest.	5-15%
3 – Algebra and Functions	Questions may include writing and solving equations and inequalities; solving a system of equations; evaluating and simplifying expressions with powers using order of operations and laws of exponents; solving problems involving linear functions; translating linear functions among tables, equations, verbal expressions, and graphs; and representing simple quadratic functions using tables, graphs, and equations.	15-25%
4 – Geometry	Questions may include identifying and describing properties of geometric shapes; identifying translations, reflections, rotations, and dilations of shapes; and solving problems involving the Pythagorean Theorem.	5-15%
5 – Measurement	Questions may include converting measurements and solving problems involving rates and derived measurements; scale factors, area, and volume using ratios and proportions; perimeter and area of regular and irregular 2D shapes; and surface area and volume of regular and irregular 3D shapes.	9-19%
6 – Data Analysis and Probability	Questions may include organizing, interpreting, and analyzing data in appropriate graphs; evaluating the reasonableness of claims based on data; identifying strengths and weaknesses of methods for selecting samples and identifying any bias; solving problems involving statistical measures, such as the median and quartiles of a data set; and solving problems involving scatterplots, probability, and the Basic Counting Principle.	10-20%
7 – Problem Solving	Questions may include analyzing, sequencing, prioritizing, and identifying relevant and irrelevant information to solve problems; using various strategies, skills, and concepts to solve problems; justifying solutions using words and symbols; and determining if solutions are reasonable.	13-23%

* This range represents the approximate emphasis for each standard on the assessment.